

Order of Operations

Order Parentheses	Operation ()	<i>Pneumonic</i> Please
Exponent	²	Excuse
Multiply* Divide*	X ÷	My Dear
Add* Subtract*	+ −	Aunt Sally

Examples:

$$15 + 6 \div 3 \times 4(5 - 4) + 3^2$$

$$15 + 6 \div 3 \times 4(1) + 3^2$$

$$15 + 6 \div 3 \times 4 + 3^2$$

$$15 + 6 \div 3 \times 4 + 9$$

$$15 + 2 \times 4 + 9$$

$$15 + 8 + 9 = 23 + 9 = 32$$

$$-2 + 3[5 - (8 - 4)] + 35 \div 7$$

$$-2 + 3[5 - 4] + 35 \div 7$$

$$-2 + 3[1] + 35 \div 7$$

$$-2 + 3 + 35 \div 7$$

$$-2 + 3 + 5 = 1 + 5 = 6$$

$$7 \times 3 + (4 + 6) - 11 + 5^2 \div 5$$

$$7 \times 3 + 10 - 11 + 5^2 \div 5$$

$$7 \times 3 + 10 - 11 + 25 \div 5$$

$$21 + 10 - 11 + 5 = 31 - 11 + 5 = 20 + 5 = 25$$

$$20 \div 5 + 2^3 + \sqrt{9} - 15$$

$$20 \div 5 + 2^3 + 3 - 15$$

$$20 \div 5 + 8 + 3 - 15$$

$$4 + 8 + 3 - 15 = 12 + 3 - 15 = 15 - 15 = 0$$

$$3(14 - 4) + 3^2 - (2 + 3)^2$$

$$3(10) + 3^2 - (5)^2$$

$$3(10) + 9 - 25$$

$$30 + 9 - 25 = 39 - 25 = 14$$

$$(7 \times 3) - 6(2 + 1) \times 2$$

$$21 - 6(3) \times 2$$

$$21 - 18 \times 2$$

$$21 - 36 = -15$$

$$(5 - 3)^5 - 7 + 4 \times 3 \div 6$$

$$2^5 - 7 + 4 \times 3 \div 6$$

$$32 - 7 + 4 \times 3 \div 6$$

$$32 - 7 + 12 \div 6$$

$$32 - 7 + 2 = 25 + 2 = 27$$

$$3^2 + \sqrt{64 - 15} + 2^3$$

$$3^2 + \sqrt{49} + 2^3$$

$$3^2 + 7 + 2^3$$

$$9 + 7 + 8 = 16 + 8 = 24$$

* have the same precedence; do whatever comes first, left to right